Comments on Proposed Reforms to the

Advanced Technology Program

Testimony

before the

Senate Commerce, Science and Transportation Committee

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by

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Chairman Hollings and members of the Committee

In my testimony, I will discuss why NIST's Advanced Technology Program (ATP) is important to our organization and to Virginia. In the process, I'll tell you some of what our organization does. We do have specific responses to the recommendations for reforming ATP in the Evans report. Finally, we offer some additional thoughts on how state organizations, such as CIT, could work more closely with ATP in the future.

I am the President of Virginia's Center for Innovative Technology (CIT), a state-funded nonprofit organization that supports the growth of technology-based businesses in Virginia, the deployment of technology throughout the state and the development of our state's research infrastructure. We have ten regional offices and a staff of about 40. Like ATP, we invest in early stage, high-risk research, although such awards are part of a portfolio of programs we provide to help build the technology industry in Virginia.

Our total budget is some $10 million per year, so we count on the complementary programs from the federal sector to help our businesses. As our own state budgets have declined, and as the availability of venture capital has also dried up—particularly at the seed and early stages—we count even more on these valuable programs to help our companies and our state progress.

The two programs that support businesses at the very early stages of R&D, before the venture capitalists will deal with them, are the ATP and Small Business Innovative Research (SBIR), but ATP is typically earlier stage and has larger scale projects. Virginia companies have done very well in winning SBIR awards. For several years running, we have ranked third among the states in total numbers of awards. We are working, like many other states, to improve how that early stage research is commercialized and moved into the economy.

Virginia companies have not won very many ATPs, winning or participating in between one and five projects per year over the life of the program, but the ones we do win are in some of the most promising technologies – transgenics, nanotechnology, and networking. These companies would not ordinarily receive venture capital for such projects because of the stage of

development of the technologies, and often because they are not located in parts of the state with a strong venture capital community – places like Bristol, on the Virginia-Tennessee border, and Blacksburg, home to one of our strongest research universities, but far from where most venture capital firms are concentrated.

In the last two years, CIT has established a good working relationship with ATP's management, and we are focusing currently on raising awareness in the state as well as addressing what some perceive as barriers to participation on the university side. For example, The Virginia General Assembly has requested CIT and a number of other stakeholders to;

- develop a statewide policy and uniform standard for the commercialization of intellectual property developed through university research (HJ88),
- recommend incentives necessary to encourage the commercialization of university research and development (HB530), and
- establish a task force to study best practices for assisting the development of technology-based businesses that will produce jobs and other economic benefits throughout the Commonwealth (HJ206).

In addition, Governor Mark Warner campaigned on the platform of improving the state's technology transfer capabilities to extend prosperity to other areas of the state, and has continued this focus in the first months of his administration.

Virginia companies, since 1990, have won 24 ATP awards, totaling $38.4 million, a number that could be increased by reforming elements of the program, particularly reforms that make it easier for our universities to take participate, promote small business involvement (while still allowing large firms and their resources to participate), and improve program marketing, most of which are addressed in the Evans report.

The Evans report makes six recommendations for reforming the ATP. While we generally support the recommendations, we do have some comments:

The first recommendation concerns allowing university leadership of ATP Joint Ventures, and the second recommendation would allow university and other non-profit organizations to negotiate ownership of ATP-funded patents. We support this approach, as

long as all the parties support the approach and the projects are evaluated with the same, or perhaps more, attention to degree of industry participation and the market potential for the technology

We have heard and understand suggestions that universities should not take the lead in what is essentially a business venture. We have also heard universities' claims that they are unable to participate in the program if they have to relinquish ownership of intellectual property. We contend that allowing universities to lead might remove a barrier, or a perceived barrier, to more university/industry participation in the program – an issue we face in Virginia.

The third recommendation would continue to allow large firm participation in ATP joint ventures. We support this as long as there is consideration for participation by small businesses. Small businesses can benefit from the resources and infrastructure of their larger partners, and several of the existing projects in Virginia represent these sorts of partnerships. While the argument is often made that large firms can well afford to undertake this research on their own dollar, they do, in fact, contribute funding to the research. Further, ATP funding allows the firm to expand its research horizon beyond the immediate concerns of its bottom line or allows specific researchers within the large organization to explore a line of research that would not normally be considered core to existing business functions. CIT has undertaken similar projects with large Virginia companies in addition to our mainstay work with small companies, and the resulting jobs, additional revenues resulting in additional taxes paid, cost savings to the company or their renewed commitment to remaining in the state has given us substantial return on these investments.

The fourth recommendation would require royalties on government investments in profitable ATP ventures. We do not support this because we have found the approach does not work well, and it sets up a contentious relationship, as the funding organization also becomes a bill collector. Virginia has tried several versions of payback, and we are about to abandon our own royalty-based program and replace them with new arrangements. Especially when funding early stage research that is not always directly traceable from the product and commercial stage, we have found the payback generates more heat than cash.

We also believe that with "recoupment" as a goal, ATP program managers would have far less incentive to invest in the highest risk projects, effectively transforming them into government-sponsored venture capitalists.

The fifth recommendation specifies that ATP would only fund projects that support removal of scientific or technological barriers to development. We support this approach instead of recommendation number 4. This language provides additional shoring up of the program's intent, as we understand it, but doing this works directly against recoupment, since it ensures earlier stage research.

The report's final recommendation would change the ATP Project Review and Evaluation Process. We have no comment on this. We have not heard or experienced anything to warrant changing the existing system, and we understand that using federal experts for the review ensures recourse for non-adherence to confidentiality agreements, but we use outside experts to review proposals from time to time and we would recommend leaving it to the ATP management to decide how to proceed.

Some additional comments:

Most federal (and state) programs would benefit from additional marketing in order to expand the pool of potential applicants. State entities—such as CIT—can help the program in these endeavors. We have existing relationships with a number of potential ATP clients. We recommend improving the mechanisms for working with state entities in spreading the word on the program, training potential applicants how to participate in the proposal process and potentially even evaluating proposals, if outside review is an avenue chosen by the ATP management.

We strongly support ongoing funding for this program, and this point was also made in a March 19th presentation to Virginia's Congressional Delegation by the Virginia Research and Technology Advisory Commission. Our state entities support the program. Our companies and to some extent, our universities have benefited from the program. We support 5 of the 6 reforms proposed in the Evans report. We are troubled by the "recoupment" recommendation. We hope you will take my comments into consideration when considering the report. Thank

you for your time.

Bio for Anne Armstrong

Anne A. Armstrong joined Virginia's Center for Innovative Technology as its president in September 1999. CIT is a nonprofit corporation that was created in 1984 by the Virginia General Assembly to spur the growth of technology and technology businesses in the Commonwealth. With ten regional offices throughout the state, CIT offers assistance to businesses in critical areas, promotes partnerships and research collaborations with Virginia's universities, and participates in initiatives to build a strong technical workforce.

Before her appointment, she was editor in chief of *Federal Computer Week*, a newspaper for federal and industry IT executives, and *civic.com*, a monthly magazine for state and local IT professionals. A member of the launch team for FCW in 1987, she became editor in chief in 1992. Armstrong has specialized in information technology journalism and has been a reporter and editor in the field for more than 30 years.

She has a B.A. degree in English from Vanderbilt University and a master's in the history of ideas from Johns Hopkins University.

She serves on a number of boards and committees including those of the Northern Virginia Regional Partnership, the Fairfax County Chamber of Commerce, the Virginia Workforce Council, the Virginia Space Grant Consortium and the Northern Virginia Technology Council.